approach could help to expand the surgical options for an optimal treatment of this kind of fracture, and plating of posterolateral shearing fractures would result in restoration and maintenance of alignment.
Keywords: Shearing fracture; Posterolateral approach; Tibial plateau; Functional outcome

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8B.2

Malpositional rates following femoral intramedullary nailing

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Background: Femoral intramedullary nailing is a commonly performed procedure for the treatment for femoral shaft fractures. Malposition is considered to be a rare complication of femoral nailing but there is little literature that quotes an actual rate or examines the factors that influence its occurrence.
Methods: Retrospective analysis was performed of patients treated with a femoral intramedullary nail for fractures between the lesser trochanter and femoral condyles from January 2005 to February 2007. Radiographs taken at follow up were examined for angulation, displacement and shortening as well as location of fracture, type of nail, insertion point, use of locking and complications.
Results: 145 patients were treated using a femoral nail. Out of these, 23 (15.9%) patients had malposition of the fracture site, defined as >10° angulation on AP view or >10° on lateral view. The mean AP angle on X-ray was 3.7° (range 0.0°–31.6°) and the mean lateral angle 4.6° (range 0.0°–22.9°). 52 (46.6%) were in the proximal third of the femur with 68 (46.9%) of the total fractures spiral in nature. 30 (20.7%) patients required further procedures including locking screw or nail removal and 5 (3.4%) patients required revision nailing.
Discussion: The malunion rate in our study was higher than expected. We have identified certain sub-groups which should be considered high risk cases for malunion and surgeons should be prepared to treat these types with greater caution.
Keywords: Malpositional; Femoral; Intramedullary; Nailing

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8B.3

The Taylor Spatial frame in the management of complex acute tibial fractures—A single surgeon series

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Introduction: The Taylor Spatial frame (TSF) is extremely versatile in limb reconstruction surgery, allowing six degrees of freedom bone fragment manipulation with computer accuracy. There are few reports in the literature describing its use in complex acute tibial fractures.
Methods: Case notes and radiographs were retrospectively reviewed by the first author (PMR).
Results: Between August 2004 and January 2008 13 acute tibial fractures were treated in our unit with the TSF. 6 patients were direct admissions to our unit, 5 patients were transferred from other units in the North West region and 2 were transferred from units outside the region. Initial stabilisation was achieved by monolateral plateau fracture (Schatzker VI) and 1 shaft combined with a plateau fracture (Schatzker I) requiring a split skin graft. 6 fractures were open. 1 open fracture developed osteomyelitis requiring debridement, antibiotics and VAC assisted closure. 4 fractures had significant bone loss. 2 bone defects were corrected using a piggyback TSF construct and Ilizarov bone transport. The remaining 2 bone defects were managed by acute shortening, tibial corticotomy and subsequent limb lengthening. Median time spent in the frame was 22.1 weeks (range 13.7–80.4). Complications included 2 docking site nonunions requiring ORIF and application of OP-1. One patient had delayed union of a Pilon fracture requiring application of OP-1. Two further fractures required OP-1. 10 patients developed a pin site infection, median Otterburn grade was 2 (range 1–4). All cases resulted in union and satisfactory correction. Treatment was ongoing in 1 case.
Conclusion: The TSF is a viable option in the management of complex acute tibial fractures.
Keywords: Taylor Spatial frame; Trauma; Tibia; Fracture

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8B.4

The Taylor Spatial frame for the management of lower limb trauma—Our early experiences in a UK District General Hospital setting

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Aims: We present our early experiences with the Taylor spatial frame (Smith and Nephew®) for managing lower limb trauma, with respect to fracture union and complications.
Patients and methods: 17 patients had Taylor spatial frame application for definitive tibial fracture fixation or management of a tibial fracture non-union or malunion between November 2006 and November 2008.
Results: 8 patients (mean age 44.5 years, 20–63 years) sustained high-energy injuries; 2 were open Gustilo 3B fractures. Median time between injury and frame application was 13 days (6–40 days). Fracture union to date has been achieved in 5 patients with frame removal at a median of 24 weeks post-op (20–44 weeks). 4 patients suffered from pin site sepsis, which was recurrent in 2 cases. Pin loosening occurred in the 2 patients with recurrent sepsis requiring additional pin insertion and frame adjustment.

5 patients (median age of 45 years, 40–81 years) were treated for fracture non-unions of the tibia. Median time between injury and frame application was 22 weeks (12–104 weeks). Fracture union was achieved in all 5 cases with a median time for frame removal of 22 weeks (17–36 weeks). Pin site sepsis occurred in 4 of the 5 cases, which was recurrent in 2 cases with associated pin loosening.

4 patients (median age 46 years, 40–65 years) were treated for tibial fracture malunion. Frame application was performed along with a corrective osteotomy. To date, satisfactory correction and osteotomy site union has been achieved in 1 patient, with subsequent frame removal at 20 weeks post-op. Pin site sepsis occurred in 3 cases, 1 of which was recurrent with associated pin loosening.
Discussion: The Taylor spatial frame is a versatile tool which has, in our experience, proven useful in managing lower limb trauma, nonunions and malunions. The post-operative care of patients requires mandatory close and regular out-patient follow-up. Pin site sepsis was a problem in all 3 subgroups with recurrent sepsis closely associated with pin loosening.